

Chapter 3 Review
p.182-183
q. 1-9

Ch 2
p.120-121
1, 3-6, 8-13, 15-19

Test Thursday

Oct 12-7:51 AM

Section 2.1 - Expansion Form
 $(x+7)(x-3) \Rightarrow x^2 + 7x - 3x - 21$
 $x^2 + 4x - 21$
 Section 2.2 - Factoring (common)
 $27x^2 - 9x$ $9x(3x-1)$
 Section 2.3 - Decomposition
 $x^2 + 9x + 20$ $+9$ $+17$ $+20$
 Section 2.4 - Special Factoring
 $49a^2 + 42a + 9 = 0$
 $7a \quad \times \quad 3 \quad \sqrt{2} = 42a$
 $(7a+3)^2 \quad (a^2-9)$
 Steps Factoring
 i) common factor
 ii) perfect squares {difference of squares}
 iii) decomposition
 iv) nonfactorable / guess formula

Oct 13-9:44 AM

$$x^2 - 2x - 35$$

A | M
-2 | -35

$$x^2 - 7x + 5x - 35$$

-7 | 5

$$(x-7)(x+5)$$

7, -5

$$\frac{5+7}{2} = \frac{12}{2} = 6$$

$$\frac{7-5}{2} = \frac{2}{2} = 1$$

Oct 13-10:19 AM

$$2x^2 + 7x + 3$$

A | M
+7 | +6

$$2x^2 + 1x + 6x + 3$$

$$x(2x+1) + 3(2x+1) + 1 + 6$$

2 | 3

$$(2x+1)(x+3)$$

$s = -\frac{1}{2}, t = -3$

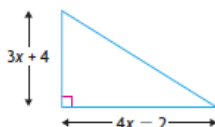
Oct 13-10:32 AM

MCF 3M Test Preparation Ch 2 & 3

9. Factor.

- a) $x^2 + 2x - 15$ c) $x^2 - 12x + 35$
 b) $n^2 - 8n + 12$ d) $2a^2 - 2a - 24$

3. Write a simplified expression to represent the area of the triangle shown.



Oct 14-10:45 AM

MCF 3M Test Preparation Ch 2 & 3

9. Factor.

a) $x^2 + 2x - 15$ c) $x^2 - 12x + 35$
 b) $n^2 - 8n + 12$ d) $2a^2 - 2a - 24$

A | M
+2 | -15
-3 | 5
 $x^2 + 2x - 15 = 0$
 $x(x+5) - 3(x+5)$
 $(x+5)(x-3)$

$2a^2 - 2a - 24$
 $2(a^2 - a - 12)$ A | M
 $2(a^2 - 4a + 3a - 12)$ -1 | -12
 $2(a-4)(a+3)$

3. Write a simplified expression to represent the area of the triangle shown.

$A = \frac{1}{2}bh$
 $A = \frac{1}{2}(4x-2)(3x+4)$
 $A = 6x^2 + 5x - 4$

Oct 14-10:45 AM

5. Factor.

a) $8x^2 + 10x + 3$

d) $15x^2 - 4x - 4$

13. Factor.

a) $6x^2 + 11xy + 3y^2$

c) $8x^2 - 14xy + 3y^2$

Oct 11-7:35 AM

5. Factor.

a) $8x^2 + 10x + 3$

d) $15x^2 - 4x - 4$

$$\begin{array}{r} 8x^2 + 6x + 4x + 3 \quad A \mid M \\ \underline{6x^2 + 6x + 4x + 3} \quad +10 \mid +24 \\ 2x(4x+3) + 1(4x+3) \quad 6 \quad 4 \\ (2x+1)(4x+3) \end{array}$$

$$\begin{array}{r} A \mid M \\ -4 \mid -60 \\ +6 \quad -10 \end{array}$$

13. Factor.

a) $6x^2 + 11xy + 3y^2$

c) $8x^2 - 14xy + 3y^2$

$$\begin{array}{r} 6x^2 + 9xy + 2xy + 3y^2 \quad A \mid M \\ \underline{6x^2 + 9xy + 2xy + 3y^2} \quad +11 \mid +18 \\ 3x(2x+3y) + y(2x+3y) \quad \wedge \\ (2x+3y)(3x+y) \quad 9 \quad 2 \end{array}$$

Oct 11-7:35 AM

7. A field-hockey ball must stay below waist height, approximately 1 m, when shot; otherwise, it is a dangerous ball. Sally hits the ball. The function $h(t) = -5t^2 + 10t$, where $h(t)$ is in metres and t is in seconds, models the height of the ball. Has she shot a dangerous ball? Explain.

Oct 11-7:38 AM

7. A field-hockey ball must stay below waist height, approximately 1 m, when shot; otherwise, it is a dangerous ball. Sally hits the ball. The function $h(t) = -5t^2 + 10t$, where $h(t)$ is in metres and t is in seconds, models the height of the ball. Has she shot a dangerous ball? Explain.

$$\begin{aligned} h(t) &= -5t^2 + 10t \\ 1 &= -5t^2 + 10t \\ 0 &= -5t^2 + 10t - 1 \end{aligned}$$

T&B solve for roots

$$\begin{aligned} h(t) &= -5t^2 + 10t \\ h(t) &= -5t(t-2) \\ 0 &= -5t \quad 0 = t-2 \\ t &= 0 \quad t = 2 \end{aligned}$$

$$\frac{5t}{5} = \frac{0+2}{5} = \frac{2}{5} = 1$$

$$\begin{aligned} h(t) &= -5t^2 + 10t \\ h(1) &= -5(1)^2 + 10(1) \\ h(1) &= -5 + 10 \\ h(1) &= 5 \end{aligned}$$

$h(1) = 5$

It is a dangerous ball because at 1 sec the ball reaches 5 m in the air.

Oct 11-7:38 AM